

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207410F AEROSPACE OPERATION CENTER (AOC)				PROJECT 4372	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4372 Time Critical Targeting	0	19,125	35,875	2,392	2,391	2,386	1,286	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>Time Critical Targeting Concept Exploration/Concept Definition efforts were funded in FY00 and FY01 in PE 0208060F. Time Critical Targeting functionality funding transferred to PE 0207410F (from 0207027F) beginning in FY02.</p> <p>(U) <u>A. Mission Description</u></p> <p>The Air Operations Center (AOC) enables the successful prosecution of the air campaign by Air Force, joint, and coalition leaders allowing them to make rapid and effective Command and Control (C2) decisions by providing the necessary air operations C2 and force execution tools. The AOC program also provides a necessary structure to transition and act as the focal point for a singular technical 'center of mass' for systems integration, technical transition, and process refinement for rapidly evolving C2 programs, processes and concepts. Numerous independent systems inherent in the entire spectrum of command, control, and communications and Intelligence, Surveillance and Reconnaissance (ISR) battle management encompass a robust fully functioning AOC. The AOC program utilizes the spiral development acquisition process supported by the Combined Air Operations Center-eXperimental (CAOC-X) located at Langley AFB, Virginia. CAOC-X serves as the place and process to bring together the user, developer and tester to improve the ability of C2 systems to support the USAF's Air Expeditionary Forces. In addition, CAOC-X serves as the engineering test bed, mirroring the operational baselines to the greatest possible extent.</p> <p>As a subset of AOC functionality, Time Critical Targeting (TCT) provides a C2 capability for the Joint Forces Commander (JFC) / Joint Force Air Component Commander (JFACC) to defeat theater time critical targets across the spectrum of conflict. Coupled with updated operational procedures, the TCT functionality supports tighter integration of C2, Intelligence, Surveillance and Reconnaissance (C2ISR) and attack systems. The TCT functionality will utilize a mix of land, air, space and sea-based assets to find, fix, track, target, and engage time critical targets. Follow-on AOC initiatives will include spiral-developed enhancements/integration of other relevant C2ISR systems supporting the AF's present and future global command and control system.</p> <p>The primary program objectives of the AOC program are to:</p> <ul style="list-style-type: none"> - Provide capabilities to collect, share and aggregate decision quality data between C2 nodes, ISR assets and attack aircraft - Integrate the relevant AOC weapons system components to provide improved USAF, joint and coalition air operations C2 - Provide a scaleable, deployable, integrated capability to the AOCs that is fully supportable - Support receipt and display of ISR data through the use of existing and acquired C4ISR systems - Develop regular updates to initial capability on a spiral development timeline (12-18 month) 									
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<p>(U) <u>A. Mission Description Continued</u></p> <ul style="list-style-type: none"> - Continue to drive down life cycle cost for the evolving system - Evaluate Commercial Off-the-Shelf (COTS)/Government Off-the-Shelf (GOTS) and service/coalition C2 and ISR systems for integration into the AOC baseline <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$17,222 Develop and integrate software capability meeting threshold requirements of the Operational Requirements Document, TCT Functionality, ACAT III, AC2ISRC. Core Increment functionality will include target development, sensor integration, threat launch and impact prediction, weapon-to-target pairing, intelligence preparation of the battlespace, and terrain and mobility analyses. Support evolving air ops C2 concepts, exercises and user evaluations (e.g. CAOC-X)</p> <p>(U) \$1,903 Survey applicable commercial and government applications and technologies to evaluate capabilities to enhance AOC functionality.</p> <p>(U) \$19,125 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$23,075 Continue software development and integration of TCT Functionality. Integrate field, train and support core increment at operational locations (hardware and software). Post Core Increment functionality will include additional decision aids, situation awareness, and analytical software applications to locate, identify, track, nominate and recommend ISR/strike assignments against TCTs as defined in TCT Functionality ORD. Develop an interface to the Intelligence, Surveillance and Reconnaissance Battle Manager (ISRBM) to enable dynamic re-tasking of ISR assets to support prosecution of TCTs. Continue migration to Web-Enabled capabilities.</p> <p>(U) \$10,000 Conduct further development and groundwork for the standardization of Block 20 upgrade and architecture to include development/integration of existing AOC Command Control, Intelligence & Reconnaissance (C2ISR) capabilities, tools to prosecute time critical targets, and enhance coalition interoperability</p> <p>(U) \$2,800 Conduct test and evaluation activities (DT&E and OT&E) for Core Increment</p> <p>(U) \$35,875 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p style="padding-left: 20px;">This program is a budget activity 7 - Operational System Development because it provides funding for the modernization of a currently existing and operating system.</p>		
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(U) <u>C. Program Change Summary (\$ in Thousands)</u>										
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>			
(U)	Previous President's Budget			0	19,514	25,962	TBD			
(U)	Appropriated Value			0	19,514					
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions			0	-389					
	b. Small Business Innovative Research			0						
	c. Omnibus or Other Above Threshold Reprogram			0						
	d. Below Threshold Reprogram			0						
	e. Rescissions			0						
(U)	Adjustments to Budget Years Since FY 2002 PBR			0		9,913				
(U)	Current Budget Submit/FY 2003 PBR			0	19,125	35,875	TBD			
(U) <u>Significant Program Changes:</u>										
Time Critical Targeting Concept Exploration/Concept Definition efforts were funded in FY00 and FY01 in PE 28060F. Time Critical Targeting functionality funding transferred to PE 27410F (from 27027F) beginning in FY02.										
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E	0	0	0	0	0	0	0	0	TBD
(U)	Other APPN	0	0	0	9	9	9	9	0	TBD
(U)	Other Procurement Air Force	0	0	1,390	1,454	1,454	1,285	1,121	Continuing	TBD
(U) <u>E. Acquisition Strategy</u>										
Electronic Systems Center (ESC) provides program management for the Time Critical Targeting (TCT) Functionality Program. The acquisition strategy builds on Theater Missile Defense (TMD) concept exploration and prototyping concluding at the end of FY01. The TCT Functionality is an outgrowth of the Air Force's limited ability to respond to TCTs in the desert and the Balkans. The following documents provide the requirements and guidance: Combat Air Force (CAF) Concept of Operations for Command and Control Against Time Critical Targets, July 1997; AF Mission Need Statement (MNS) for Theater Missile Defense, October 1991; JROCM 065-99 , MNS for Theater Air and Missile Defense (TAMD), July 1999; Mission Need Statement (MNS) for Joint TAMD, May 1999; Program Management Directive (PMD) 2440/Program Element (PE) # 27410 for AOC; Operational Requirements Document (ORD) Aerospace Command and Control and Intelligence,										
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(U) **E. Acquisition Strategy Continued**

Reconnaissance, Surveillance Center AC2ISRC Time Critical Targeting Functionality, ACAT III, Draft, August 2000. In support of the timely prosecution of TCTs, the AC2ISRC, ESC, Air Force Research Lab (AFRL), Space Warfare Center (SWC), and others have been involved in the development of several TCT decision support tools. As a means to evaluate and integrate the above applications, AC2ISRC/C2N and ESC/ACP established a Software Interoperability Facility for TCT (SWIFT). This effort will serve as the initial baseline for the development of a TCT capability that will be fielded at designated Theater Air Control Systems (TACS) locations. An 8(a) set aside contract was awarded to design, develop, test, integrate, install, train and support TCT Functionality software. Separate contractors will be used to procure communication and computer hardware. The TCT Functionality will be updated using evolutionary acquisition guidelines. The plan is to field a rapidly deployable, small footprint construct to match Air Force AEF concept. The basic TCT Functionality configuration will augment the basic communications links and utilities services already in place at the individual AOC locations. Evolutionary acquisition IAW DoDI 5000.1, AFI 63-123 provides the opportunity to introduce additional capabilities during the course of development. Other products that may extend the capabilities as a whole will be investigated. There will be a continuing review of emerging technologies and products to enhance the TCT capabilities. The system will be supported using existing AOC maintenance support structure (a combination of contract and organic resources). Systems Engineering and Technical Analysis (SETA) contracts will be used to support the effort.

(U) **F. Schedule Profile**

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) TCT Functionality Design					X							
(U) TCT Pre-Core Delivery to Field (One Site)						X						
(U) TCT Core Drop to CAOC-X								X				
(U) TCT Core delivery to field (1st site)										X		
(U) TCT Post Core Design Review											X	
(U) TCT Post Core Drop to CAOC-X												X
(U) AOC Block upgrade to the Baseline										X		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
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(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	TCT Software Development and Integration					0		17,222		23,075
(U)	Evaluation of Other Development Efforts for Future Interface/Integration					0		1,664		
(U)	Development of Block 20 Architecture					0		0		10,000
(U)	Test and Evaluation					0		239		2,800
(U)	Total					0		19,125		35,875
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
	<u>Contractor or</u>	<u>Contract</u>								
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>					
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
	<u>Product Development Organizations</u>									
	Zel Technologies	CPAF	Nov 02			0	0	13,811	13,217	Continuing
	TBD (comm& comp equip)	Multiple	Nov 02			0	0	2,425	8,258	Continuing
	<u>Support and Management Organizations</u>									
	FFRDC	FPAF	Nov 02			0	0	1,600	1,600	Continuing
	<u>Test and Evaluation Organizations</u>									
	Non-FFRDC		Nov 02			0	0	1,050	11,050	Continuing
	46TS	AF Form 616	Nov 02			0	0	239	239	Continuing
	Zel Technologies	CPAF	Nov 12			0	0	0	1,511	1,511
(U) <u>Government Furnished Property:</u>										
		<u>Contract</u>								
		<u>Method/Type</u>	<u>Award or</u>							
	<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
	<u>Product Development Property</u>									

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(U) Government Furnished Property Continued:Support and Management PropertyTest and Evaluation Property

	<u>Total Prior</u> <u>to FY 2001</u>	<u>Budget</u> <u>FY 2001</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	0	0	16,236	21,475	TBD	TBD
Subtotal Support and Management	0	0	1,600	1,600	TBD	TBD
Subtotal Test and Evaluation	0	0	1,289	12,800	TBD	TBD
Total Project	0	0	19,125	35,875	TBD	TBD